

Met w/ Paul on 11/28/07 + told
him my concerns. He said he
was going to look @ having Volpe
pay for all the investigation work
that took place on this whole
issue.



MEMO

To: Paul Peronard, EPA Region 8
From: Steve Losier, Volpe Center
Date: October 26, 2007

Subject: Decontamination Water Issue

The purpose of this memo is to provide you with a comprehensive documentation of the Libby mine pond water decontamination issue. The Volpe Center team has chronicled the discovery of the deficiency, the investigation to determine why it occurred, and the steps taken to remedy the situation. Volpe Center site manager Courtney Zamora and CDM Health & Safety manager Shawn Oliveira coordinated the field investigation and have ensured that the remedy is appropriate and has been implemented correctly. Robert Robinson, the Volpe Center contracting officer, engaged ER in a dialog in which he apprised them that they were not operating the decontamination program according to contract requirements. A number of Volpe Center and CDM team members have worked together to investigate the reasons the deficiency occurred and institute improvements to preclude other systemic failures.

Following is a compilation of program correspondence prepared by the team, which is organized into four sections:

- Sequence of Activities from Discovery to Remedy:
- Contracting Officer Communications with ER
- Volpe Center Team Q&A with Oversight Contractor
- Near-Term Sampling and Inspection Activity

Sequence of Activities from Discovery to Remedy:

Wednesday Oct 10, 2007

1330 Shawn Oliveira received a call from Bob Medler (MWH) and a meeting transpired.

1400 Shawn Oliveira (CDM) and J. Garr, Bob Medler, Jeremy Collyard (MWH) were in a meeting and MWH notified Shawn Oliveira that they had spoken with ER amphitheatre personnel who stated that there were not filters in the canister system. MWH found this out by asking the ER employees questions on how the water filtration system worked at the decon pad.

1500 Shawn Oliveira (CDM) notified Courtney Zamora (Volpe) of the potential situation

1515 Shawn Oliveira (CDM) and Vince Parker (ER) met with ER amphitheatre personnel (Doug Drake, Scott Frost, Leonard Shoemaker) they pulled the canister

filters and found no filters. Based on the imminent hazard, mine road and amphitheatre operations were stopped by Shawn Oliveira CDM until an acceptable corrective action is implemented.

1615 Shawn Oliveira (CDM) notified Courtney Zamora (Volpe) that there were not filters in the canister system at the amphitheatre.

1630 Vince Parker (ER) stated that ER had the required sock filters in stock, and was going to have them installed before the end of the day.

Thursday October 11, 2007

0700 ER placed 25 and 5 micron filters into the canister system which were incorrect since the Mine Operation plan called for 20 and 5 micron filters.

0730 Paul Lammers, Shawn Oliveira and Damon Repine (CDM) had a phone call with Julie Borgesi (Volpe)

0830 Meeting with the following people Paul Peronard Ted Limmert (EPA), Steve Losier, Michelle Heimgartner, Julie Borgesi (Volpe), Shawn Oliveira, Damon Repine, Paul Lammers (CDM) to notify EPA of situation and that ER was now operating with 25 and 5 micron system.

0845 Damon Repine (CDM) went to mine to confirm 25 and 5 micron system was operating and functioning. ER had placed sock filters into the canisters the previous evening, but the filters were 100 micron filters, not the 20 and 5 micron filters required by the plan. ER had sent an employee to Spokane, WA first thing in the morning to obtain the necessary filters. The new filters arrived, and were installed by ER personnel before Damon Repine (CDM) was onsite.

1430 Meeting with the following people Paul Peronard, Ted Linnert (EPA), Karen Petho (Volpe), Shawn Oliveira, Damon Repine, Paul Lammers (CDM), Dennis Green, Chuck Jackson, Lonnie Wright, Vince Parker and Karla Barnes (ER). During this meeting the situation was confirmed from ER that they failed to use filters. ER (Vince Parker) admitted they didn't know the filtration system was their responsibility and that they had not seen the Mine Operations Documents.

1630 Shawn Oliveira (CDM) discussed reasons for filtration failure with Vince Parker (ER). Vince stated that the amphitheatre crew was told by ER's previous site manager, Mike Kair, that filtration of the tailings pond water for dust suppression and decontamination was not necessary.

How long ago was that?
Friday October 12, 2007

1500 Philip Bennett (CDM) visually inspected the decontamination operations and the filters were still in working order. Discussions were held with the ER amphitheatre workers about any observed problems with the system such as significant pressure drop, filter clogging, or any other issue with the system. ER workers stated that there was a noticeable, but insignificant pressure drop in the system over the course of the day.

1700 Philip Bennett (CDM) reported to Damon Repine that both filters were installed and working properly

Monday October 15, 2007

0900 Shawn Oliveira (CDM) spoke with Vince Parker (ER) to ensure that all parties are aware of the filtration requirements. Shawn Oliveira (CDM) requested ER's cooperation with CDM Health and Safety (H&S) to obtain post filtration water samples to determine to what degree the system is functioning. *How often is this required?*

1600 Per conversations with Vince Parker (ER), he was unable to obtain 20 micron sock filters, but was able to obtain 25 and 5 micron sock filters. Since ER was unable to comply with the Mine Ops plan requirements, they decided to haul two 1500 gallon potable water tanks to the mine and will haul city water to mine to be used for dust suppression and decontamination.

1600 CDM collected one water sample from the post filtration system that was using the 25 and 5 micron filters to determine if filtration system was working effectively.

Tuesday Oct 16, 2007

0800 Shawn Oliveira (CDM) discusses the use of city water with Vince Parker (ER) to ensure that ER was indeed utilizing city water for dust suppression and decontamination purposes at the mine.

1400 CDM H&S received results back from the post filtration water sample obtain from the amphitheatre (0.66 million fibers per liter).

1415 CDM H&S communicated water sample results to Courtney Zamora (Volpe). CDM H&S requested to collect additional water samples from the filtration system to better understand the performance of the canister filtration system. The additional samples will allow for EPA and Volpe management to determine if filtration water meets agreed upon requirements for amphitheatre operations.

Courtney Zamora (Volpe) supported the request for additional post-filtration water sampling, and stated that Julie Borgesi (Volpe) had suggested a similar approach. Shawn Oliveira (CDM) contacted Tommy Cook (CDM) to discuss a sampling approach, and to pull together the thought process and rationale for our sampling approach.

Wednesday Oct 17, 2007

0700 Shawn Oliveira (CDM) prepares responses to Steve Losier's (Volpe) questions.

0900 Tommy Cook (CDM) sends out internal CDM email describing the sampling rationale and approach.

1130 Shawn Oliveira (CDM) and Doug Updike (CDM Quality Director) discuss amphitheatre post filtration water results, and compare results to historical tailings pond sampling results. The filtration system appears to be achieving a 90% reduction in asbestos content. Discussions focused on comparing the post filtration results to standard industry requirements, EPA maximum contaminant levels (MCL), and what

standard needs to be set for decontamination water used during amphitheatre operations.

1700 Shawn Oliveira (CDM) completes responses to questions posed by Steve Losier (Volpe), and submits them to Jeff Montera (CDM).

1800 Jeff Montera (CDM) sent the completed responses on to Volpe management.

Contracting Officer Communications with ER

The Volpe Center contracting officer, in consultation with the technical team, promulgated a Cure Notice, which notified ER that they were not in compliance with contract requirements. Following are the text of the notification to ER, ER's reply, and the Volpe Center's reply to ER's reply.

1. Text of Cure Notice transmitted to ER on October 15, 2007

Dear Ms. Smith:

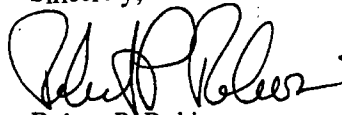
It has recently been brought to my attention that Environmental Restoration is not in compliance with Section 8.2 of the Final Disposal Operations Plan for the Former W.R. Grace Mine (May 2004). This plan was included by reference as Government Furnished Information (Section G.2) of the Task Order. Based on this, the following cure notice is hereby issued:

CURE NOTICE

You are notified that the Government considers your failure to properly filter the water supply for Libby Amphibole Asbestos (LA), as directed in Section 8.2 of the Final Disposal Operations Plan for the Former W.R. Grace Mine (May 2004), a condition that is endangering performance of the Task Order. The water supply referenced above is used for equipment decontamination and dust suppression, and is located adjacent to the amphitheater. Your failure to incorporate the required water filtration into the above referenced contract operations is an unacceptable failure to provide for the basic safety of the project workforce, and the community at large. Your failure to read, understand, and ensure that key mine road operations personnel have been trained regarding the content and requirements of contract guidance documents has created a knowing endangerment for the entire period of performance for this contract to date. This is a condition that is endangering performance of the contract.

Therefore, unless this condition is cured within 10 days after receipt of this notice, the Government may terminate for default in accordance with FAR Clause 52.249-8 entitled "Default (Fixed-Price Supply and Service) (APR 1984), Alternate I (APR 1984).

Sincerely,



Robert P. Robinson
Contracting Officer

2. Reply received from ER on October 18, 2008

Dear Mr. Robinson:

Environmental Restoration, LLC (ER) is in receipt of DOT/Volpe's cure for Task Order DTRTV-T7040 as received on Monday, October 15, 2007. The referenced cure was completed on Friday, October 12,

2007.

ER site personnel were notified of the task order requirement for water treatment on Wednesday, October 10, 2007, late in the afternoon. ER's management and staff misinterpreted language within the work plan, and did not see any water treatment requirements defined within the Task Order. This water treatment requirement pertained to all decontamination water as pumped from an onsite sediment pond and used to decontaminate haul vehicles as well as waters used to flush the haul road between the Amphitheater and Highway 2. ER had been utilizing potable water for cleanup of the lower quadrant of the road from the Amphitheater to Highway 2 since the beginning of the task order.

Following notification by DOT's subcontractor CDM, ER purchased and placed the required water treatment components, as per the *Final Disposal Operations Work Plan for the Former W.R. Grace Mine*, on Thursday, October 11th 20 micron sock filters were not available and 25 micron filters were substituted while 20 micron socks were located. The five micron filters were available and installed on Thursday, October 11th, effectively meeting the asbestos removal standards. CDM was notified of this change.

Following our investigation of the pressure limitation of the sock filters and the high water demands onsite, ER placed a water tank, and initiated use of potable water on Monday evening October 15, 2007, bypassing the need to treat water. ER's intention to use this alternate system was verbally communicated to DOT at the Monday close out meeting.

In addition to meeting the water treatment standard within 24 hours of notice, key personnel within our Libby Project reviewed all site plans by close of business Saturday, October 13th. Likewise retraining of required work elements with all hourly employees has taken place.

Should you have any questions please feel free to contact me.

Sincerely,

Marilyn Smith
Program Manager

What other measures will they take to make
sure something like this does not happen
again?

3. Reply to ER's reply to Cure Notice, sent by Volpe Center Contracting Officer

From: Robinson, Robert P
Sent: Monday, October 22, 2007 1:26 PM
To: 'Marilyn Smith'
Cc: Taylor, Joel; Zamora, Courtney; Dennis Greaney
Subject: RE: DTRS57-04-D-30030; Mine Road

Marilyn:

The Government has completed a review and we have concluded that that ER did not adequately acknowledge or take responsibility for failing to properly decontaminate vehicles leaving the mine. Initially ER's representatives stated that they did not receive the Mine Ops plan, but when the Government substantiated that ER did receive the Mine Ops Plan, your field representatives stated that ER did not review the Government Furnished Information (GFI) prior to operating the decontamination system.

The use of unfiltered pond water located within a contaminated mine site for any purpose is irresponsible and violates the trust that the public invests in the Libby team. The Volpe Center Technical Staff and the EPA sponsor are greatly concerned that the unfiltered water was used for an unknown period of time with unknown effects to public health and the environment.

I thought 2 yrs?

Regarding the implementation of the cure, the Task Order COTR has verified that the actions taken to remedy the issue have been implemented as described in your response. The Government directs ER to keep a log of their actions related to operating and maintaining the decontamination and watering functions at the mine.

Please contact me if you have any questions.

Robert P Robinson

Volpe Center Team Q&A with Oversight Contractor

The Volpe Center technical team posed questions to CDM, its oversight contractor, to better understand the nature and extent of the issue. Following is CDM's response:

What steps has CDM taken to ensure that unfiltered pond water is no longer being used in the decontamination process at the mine?

The Volpe/CDM team has worked together to ensure that the removal contractor is aware of their basic and fundamental contractual obligations to perform work under the Volpe contract on the Mine Road Task Order, including the appropriate use and treatment of tailing pond water for dust suppression and truck decontamination purposes.

CDM H&S is performing periodic inspections at the amphitheatre pump station and is working with the removal contractor to ensure that the required water filtration system is operational at the amphitheatre.

Per conversation with Vince Parker, ER Site Manager, ER has decided to transport two, 1500 gallon water storage tanks to the amphitheatre, and will be using city supplied water for decontamination operations for the remainder of the season. *what about next yr.?*

What process will CDM use to ensure compliance for the remainder of the construction season and beyond?

Oversight plan for remainder of 2007

- 1) CDM H&S proposes to perform three inspections per week of the amphitheatre operations water source until the end of the 2007 construction season to ensure that the removal contractor is satisfying water source decontamination requirements.
- 2) Existing SafetyNet checklists will be modified to incorporate equipment inspection metrics.
- 3) Inspections will focus on pertinent metrics to evaluate the efficacy of the system used to supply water for decontamination and dust suppression purposes.
 - a. Filter system metrics
 - i. Filter changeout frequency
 - ii. Pressure differential measurements of the canister system to ensure that the system is operating within acceptable parameters

- iii. Obtain water samples after filtration to ensure that the water used for amphitheatre purposes meets standards agreed upon by the EPA/Volpe management team. *What are these standards?*
- b. City water system metrics
 - i. Confirmation of ER's use of city supply taps
 - ii. Collect samples from potable water storage tanks at the amphitheatre to ensure the water source meets standards agreed upon by EPA/Volpe management
 - iii. Request purchase records and invoices from ER to the City of Libby
- 4) Document all equipment inspections with the SafetyNet system and email inspection results to Volpe and EPA management in real time.

Oversight plan for 2008 season

1) Institute a robust equipment inspection and sampling program to be conducted on a weekly basis during the 2008 construction season for mine road operations. CDM air tech personnel have historically conducted occupational monitoring for mine activities every two weeks during the construction season. Volpe/CDM should consider dedicating oversight resources to perform critical equipment inspections, sampling, and subsequent documentation on a weekly basis for the 2008 season. CDM H&S plans to institute the following steps:

- Modify existing mine road inspection checklists to accommodate equipment inspections and critical hazard evaluations
- Document all inspections, observations, and recommended corrective actions with the SafetyNet system
- Utilize documented inspection results as feedback to achieve continuous improvement in high hazard areas.
- Provide automatic and real time reporting of critical equipment inspections to Volpe managers through the SafetyNet system

Future compliance considerations

Contract review

- 1) Review of pertinent guidance documents to ensure that ambiguous language is replaced with clearly defined roles and responsibilities. Ensure that the guidance documents address high risk areas with appropriate language and responsibilities.
- 2) Institute a formalized guidance document review session at the start of each construction season to ensure that all parties have received and are aware of guidance document requirements for every definable feature of work under the Mine Road task order. A document review should be instituted any time a task order is won by a new contractor. *How often is this?*
- 3) Critical hazards, equipment concerns, and overall execution will be discussed.

What about throughout for new workers?

What about other Libby asbestos site operations?

- 4) The guidance document review session will be documented on a Task Order Guidance Document Review Form that will track attendees, specific issues discussed, and any questions pertinent to operations.

Water source considerations

- 1) Establish a standard for decontamination and dust suppression water that is agreed upon by EPA and Volpe management and is acceptable for community safety and worker protection.
- 2) Conduct a feasibility study to determine if the tailings pond is adequate as a decontamination and dust suppression water source with the required filtration system in place.

An initial water sample collected on 10/15/07 showed that the two-stage filtration system (25 and 5 micron) is achieving a 90 % reduction in LA. This reduction is based on previous water samples collected from the tailings pond, which showed LA levels at approximately 6.5 million fibers per liter (MFL). The post filtration sample contained LA at .66 MFL, with a method detection level of 0.17 MFL. Note: The Maximum Contaminant Level (MCL) established by the EPA for asbestos in drinking water is 7 MFL.

Is that Libby Amphibole?

Note: The water sample collected on 10/15/07 shows that the filtered water has asbestos levels that are less than 10% of the MCL established for asbestos in drinking water. From a regulatory standpoint, this should be adequate to use as a dust suppression and decontamination water source. However, these results should be evaluated in terms of worker safety and community perception regarding use of this water for mine road decontamination and dust suppression activities.

- 2) Evaluate potential water sources for the 2008 construction season. Determine if two-stage filtration (25 and 5 micron) will achieve the standard agreed upon by EPA and Volpe management. Determine if alternative treatment systems or options exist that will achieve the required level of filtration for the tailings pond water to be used as a decontamination and dust suppression water source.
- 3) Consider the water needs of mine road operations versus various dust suppression options such as application of magnesium chloride or road oil. Approximately 20,000 gallons/day is needed during the peak of the removal season just for haul truck decontamination and amphitheatre operations. An additional 15,000 gallons/day is required to maintain dust suppression on the unpaved portion of the mine road above the amphitheatre.

The above described needs should be considered in the feasibility study. Options for paving or providing multiple magnesium chloride or road oil applications during the course of the season to reduce demand for dust suppression, on the unpaved portion of the mine road, should be evaluated as well.

Has CDM determined the duration of time that unfiltered water was used?

Based on the following information provided by ER from the meeting held between EPA, Volpe, CDM, and ER management on 10/11/07, we can determine the following:

ER stated that they were unaware of the Mine Road operations plan, and were unaware of their obligation to filter the water source for decontamination and dust suppression. ER also stated that they did not feel it was their contractual responsibility based on language contained in Section 8.2 of the Mine Ops plan.

Per conversation with Vince Parker, ER's current Site Manager, he stated that the mine road workers were told by Mike Kair, previous ER Site manager, in July of 2005 that the workers no longer needed to filter the water from the tailings pond. This statement is inconsistent with ER's previous admission that they were unaware of and never had a copy of the Mine road operations plan.

Based on this information, it appears that water filtration was taking place until July of 2005.

CDM H&S assumes that ER has not filtered the tailings pond water during the entire period of performance for mine road operations dating back to the beginning of the 2005 construction season.

What is CDM doing to identify other potential H&S vulnerabilities in the asbestos removal and disposal processes?

+ other Libby site action activities outside of H&S too?

Previous risk assessment efforts were largely focused on contractual compliance issues and execution, and were based on the following assumptions:

- 1) Project removal contractors will bring a certain level of expertise of asbestos abatement standard practices and equipment necessary to perform abatement activities in compliance with industry standards.
- 2) Project removal contractors will exert a reasonable level of diligence with respect to reading project guidance documents, ensuring personnel are trained and understand these documents, and conduct abatement operations in compliance with these guidance documents.
- 3) Project removal contractors will exert a reasonable effort to identify and prevent out of compliance operational procedures project wide.

This recent mine road water filtration incident has provided cause for the CDM H&S team to strongly question these assumptions, and to reevaluate the hazard analysis process project wide.

CDM H&S proposes to perform a critical hazard analysis for all Libby operations that will incorporate the above concepts and assume that the removal contractor will not

exercise the care and diligence expected of a reasonably prudent organization under similar circumstances.

CDM oversight personnel will be fully trained on the results of this critical analysis, and inspection checklists will be modified to accommodate these hazards, so that oversight personnel are making frequent and regular inspections of metrics relating to critical hazards. Training of oversight personnel and performing regular and frequent documented inspections of critical hazard areas will raise the awareness at all levels to better serve and protect the interests of the EPA, Volpe, the community, and the work force.

Near-Term Sampling and Inspection Activity

CDM has collected a number of samples and conducted inspections to ensure the health and safety of cleanup and disposal operations. Following is a description of their recent activities:

- Collected one water sample after being filtered by the 25 and 5 micron canister system at the amphitheatre decontamination pad. The results of these samples were presented to Volpe in a previous memo, but showed that the filtration system was achieving an approximate 90% reduction in asbestos levels from the tailings pond water source.
- Collected 4 water samples from water tanks at amphitheatre on October 18th, 19th, and 22nd, 2007. These samples were qualitatively analyzed at the city of Libby water lab to determine if residual chlorine is present in accordance with city water. The city maintains a chlorine residual coming from the plant at approximately .5 mg/L. All samples were confirmed to have the appropriate chlorine residual, and are considered to be potable. An additional sample was collected on October 24th, 2007, that has not been analyzed, and another sample will be collected on October 26th, 2007.
- Collected a potable water sample on October 22nd, 2007 from the decontamination shower at 170 Upper Flower Creek Rd, that was found to be potable water per the city lab.
- CDM H&S inspected 5 haul truck positive pressure systems operated by the removal contractor during the week of October 15th, 2007. All systems were found to be properly operating within recommended parameters. The HEPA filters were inspected by CDM H&S, and a copy of the part number and manufacturer was obtained and filed by CDM H&S.
- Collected 6 stationary air samples on October 22nd, and 23rd, 2007 to evaluate negative air filtration units used for containment purposes. Results have not been received from the lab as of October 25th, 2007. Additional samples will be collected on October 26th, 2007.
- Collected 4 stationary air samples on October 16th, 17th, and 19th, 2007 to evaluate the Hurricane Vacuum units in operation. Results have not been received from the lab as of October 25th, 2007. Additional samples will be collected on October 26th, 2007.

